SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 as amended by Regulation (EU) No. 2020/878, and
Regulation (EC) No. 1272/2008

Revision date 03-Dec-2024 **Revision Number** 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) Product Family: GXT5 Series, PSI5 Series, EDGE Series, APS Series, GXTRT Series, PSA5 Series, itON Series

Product Name Valve Regulated Lead-Acid Battery

Synonyms VRLA

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Uninterruptible Power Supply (UPS)

Uses advised against None

1.3. Details of the supplier of the safety data sheet

Importer
Vertiv S.r.l.
Via Leonardo da Vinci,
16-18 Piove di Sacco,
Padova, 35028 Italia

Manufacturer
Vertiv Group Corporation
505 N Cleveland Ave
Westerville, OH 43082

For further information, please contact

1.4. Emergency telephone number

Emergency telephone 0800 1155 4499 / 0800 296 837

Emergency telephone - §45 - (EC)1272/2008	
Europe	**112**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
This product is not hazardous in supplied solid form. This product is an article which is a sealed battery and does not require an SDS unless ruptured. The hazards indicated are for a ruptured battery. As supplied, this product is an article. This product contains a battery. No exposure to hazardous chemicals is expected to occur during intended product use. Misuse of the product may result in exposure to hazardous chemicals. The information below relates to the mixture of components contained within the battery.

Acute toxicity - Inhalation (Dusts/Mists)	Category 2 - (H330)
Skin corrosion	Category 1 Sub-category A - (H314)
Serious eye damage	Category 1 - (H318)
Reproductive toxicity	Category 1A - (H360FD)
Effects on or via lactation	Yes - (H362)
Hazardous to the aquatic environment - acute	Category 1 - (H400)
Hazardous to the aquatic environment - chronic	Category 1 - (H410)

2.2. Label elements

Contains Sulfuric acid

Signal word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage.
H330 - Fatal if inhaled.
H360FD - May damage fertility. May damage the unborn child.
H362 - May cause harm to breast-fed children.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary Statements - EU (§28, 1272/2008)
P201 - Obtain special instructions before use.
P260 - Do not breathe dusts or mists.
P263 - Avoid contact during pregnancy and while nursing.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection and face protection.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P320 - Specific treatment is urgent (see supplemental first aid instructions on this label).
P391 - Collect spillage.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Unknown acute toxicity
81.8 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Unknown aquatic toxicity Contains 6 % of components with unknown hazards to the aquatic environment.

Additional information
This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

Other hazards No information available.

PBT & vPvB None known

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	Notes
Lead 7439-92-1	65-80	No data available	231-100-4 (082-014-00-7)	Repr. 1A (H360FD) Lact. (H362) Aquatic Chronic 1 (H410)	-	-	10	-
Sulfuric acid 7664-93-9	14-20	No data available	231-639-5 (016-020-00-8)	Skin Corr. 1A (H314) Carc. 1A	Eye Irrit. 2 :: 5%<=C<15% Skin Corr. 1A :: C>=15% Skin Irrit. 2 :: 5%<=C<15%	-	-	B
ABS resin 9003-56-9	5	No data available	-	No data available	-	-	-	-
Glass fiber 65997-17-3	1-2	No data available	266-046-0	[C]	-	-	-	-
Tin 7440-31-5	<0.5	No data available	231-141-8	[C]	-	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP] - Notes

[C] - Components with occupational exposure limits and/or biological occupational exposure limits requiring monitoring

Note B - Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid … %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Sulfuric acid 7664-93-9	2140	No data available	0.375	No data available	No data available
Tin 7440-31-5	700	2002	No data available	No data available	No data available

This product contains one or more candidate substance(s) of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No.	SVHC candidates
Lead	7439-92-1	X

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation	If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Do not breathe dust. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Coughing and/ or wheezing. Difficulty in breathing. Burning sensation.
Effects of Exposure	May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid generation of

dust. Do not breathe dust. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Attention! Corrosive material.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information See section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not breathe dust. Avoid generation of dust. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Remove contaminated clothing and shoes.

General hygiene considerations Avoid contact with skin, eyes or clothing. Do not breathe dust. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Protect from moisture. Store away from other materials.

Storage class (TRGS 510) LGK 6.1A.

7.3. Specific end use(s)

Specific use(s) Lead acid battery.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Lead 7439-92-1	TWA: 0.03 mg/m³	TWA: 0.1 mg/m³ STEL 0.4 mg/m³	-	TWA: 0.05 mg/m³	TWA: 0.15 mg/m³
Sulfuric acid 7664-93-9	TWA: 0.05 mg/m³	TWA: 0.1 mg/m³ STEL 0.2 mg/m³	TWA: 0.2 mg/m³	TWA: 0.05 mg/m³	TWA: 0.05 mg/m³
Glass fiber 65997-17-3	-	-	TWA: 10 mg/m³	-	-
Tin 7440-31-5	TWA: 2 mg/m³	TWA: 2 mg/m³ STEL 4 mg/m³	TWA: 2 mg/m³ Sk*	TWA: 0.1 mg/m³ TWA: 2.0 mg/m³	TWA: 2 mg/m³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Lead 7439-92-1	TWA: 0.15 mg/m³	TWA: 0.05 mg/m³ Ceiling: 0.2 mg/m³	TWA: 0.05 mg/m³ STEL: 0.1 mg/m³	TWA: 0.1 mg/m³ TWA: 0.05 mg/m³	TWA: 0.1 mg/m³
Sulfuric acid 7664-93-9	TWA: 0.05 mg/m³	TWA: 1 mg/m³ TWA: 0.05 mg/m³ Ceiling: 2 mg/m³	TWA: 0.05 mg/m³ STEL: 0.1 mg/m³ thoracic fraction	TWA: 0.05 mg/m³	TWA: 0.05 mg/m³ STEL: 0.1 mg/m³
ABS resin 9003-56-9	-	TWA: 5.0 mg/m³	-	-	-
Glass fiber 65997-17-3	-	-	-	-	TWA: 5 mg/m³
Tin 7440-31-5	TWA: 2 mg/m³	TWA: 2 mg/m³ Ceiling: 4 mg/m³	TWA: 2 mg/m³ STEL: 4 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Lead 7439-92-1	TWA: 0.1 mg/m³	-	TWA: 0.004 mg/m³ Peak: 0.032 mg/m³	TWA: 0.15 mg/m³	TWA: 0.1 mg/m³ TWA: 0.05 mg/m³
Sulfuric acid 7664-93-9	TWA: 0.05 mg/m³ STEL: 3 mg/m³	TWA: 0.1 mg/m³	TWA: 0.1 mg/m³ Peak: 0.1 mg/m³	TWA: 0.05 mg/m³	TWA: 0.05 mg/m³
Tin 7440-31-5	-	-	-	TWA: 2 mg/m³	TWA: 2 mg/m³ STEL: 8 mg/m³ Sk*
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Lead 7439-92-1	TWA: 0.15 mg/m³ STEL: 0.45 mg/m³	TWA: 0.15 mg/m³	TWA: 0.05 mg/m³	-	TWA: 0.15 mg/m³ TWA: 0.07 mg/m³
Sulfuric acid 7664-93-9	TWA: 0.05 ppm STEL: 0.15 ppm	TWA: 0.05 mg/m³	TWA: 0.2 mg/m³	TWA: 0.05 mg/m³	TWA: 0.05 mg/m³ STEL: 3 mg/m³
ABS resin 9003-56-9	-	-	-	TWA: 5 mg/m³	-
Glass fiber 65997-17-3	-	-	TWA: 5 mg/m³	-	-
Tin 7440-31-5	TWA: 2 mg/m³ STEL: 6 mg/m³	-	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Lead 7439-92-1	TWA: 0.15 mg/m³	-	TWA: 0.15 mg/m³	TWA: 0.05 mg/m³ STEL: 0.15 mg/m³	TWA: 0.05 mg/m³
Sulfuric acid 7664-93-9	TWA: 0.05 mg/m³	TWA: 0.05 mg/m³	TWA: 0.05 mg/m³	TWA: 0.1 mg/m³ STEL: 0.3 mg/m³	TWA: 0.05 mg/m³
Tin 7440-31-5	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³ STEL: 4 mg/m³	TWA: 2 mg/m³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Lead 7439-92-1	TWA: 0.05 mg/m³	TWA: 0.15 mg/m³	TWA: 0.15 mg/m³ TWA: 0.05 mg/m³	TWA: 0.1 mg/m³ STEL: 0.4 mg/m³	TWA: 0.15 mg/m³
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m³	TWA: 0.05 mg/m³	TWA: 0.05 mg/m³	TWA: 0.05 mg/m³ STEL: 0.05 mg/m³	TWA: 0.05 mg/m³
Glass fiber 65997-17-3	TWA: 5 mg/m³	-	-	-	-
Tin 7440-31-5	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³ Sk* Ceiling: 4 mg/m³	TWA: 2 mg/m³ TWA: 8 mg/m³	TWA: 2 mg/m³

Chemical name	Sweden	Switzerland	United Kingdom

Lead 7439-92-1	NGV: 0.1 mg/m³ NGV: 0.05 mg/m³	TWA: 0.1 mg/m³ STEL: 0.8 mg/m³	TWA: 0.15 mg/m³ STEL: 0.45 mg/m³
Sulfuric acid 7664-93-9	NGV: 0.1 mg/m³ Vägledande KGV: 0.2 mg/m³	TWA: 0.1 mg/m³ STEL: 0.2 mg/m³	TWA: 0.05 mg/m³ STEL: 0.15 mg/m³
Glass fiber 65997-17-3	NGV: 1 fiber/cm3	-	-
Tin 7440-31-5	NGV: 2 mg/m³	TWA: 0.004 ppm TWA: 0.02 mg/m³ TWA: 0.003 ppm TWA: 0.015 mg/m³ STEL: 0.004 ppm STEL: 0.02 mg/m³	TWA: 2 mg/m³ STEL: 4 mg/m³

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Lead 7439-92-1	30 µg/100 mL - blood (Lead) - no restriction 0.015 mg/m³ - air (Lead) - 40 hours per week 15 µg/100 mL - blood (Lead) - no restriction	120 µg/100 mL RBC Erythrocyte protoporphyrin - blood (Ethylenediaminetetraacetic acid) - not provided 30 µg/100 mL blood Lead - blood (Ethylenediaminetetraacetic acid) - not provided 3.8 million/µL Erythrocytes - blood (Ethylenediaminetetraacetic acid) - not provided 12 g/dL Hemoglobin - blood (Ethylenediaminetetraacetic acid) - not provided 35 % Hematocrit - blood (Ethylenediaminetetraacetic acid) - not provided 10 mg/L - urine (.delta.-Aminolevulinic acid) - not provided 3.2 million/µL Erythrocytes - blood (Ethylenediaminetetraacetic acid) - not provided 10 g/dL Hemoglobin - blood (Ethylenediaminetetraacetic acid) - not provided 30 % Hematocrit - blood (Ethylenediaminetet	300 µg/L - blood (Lead) - not fixed 400 µg/L - blood (Lead) - not fixed	400 µg Pb/L - blood (Lead) - not critical 300 µg Pb/L - blood (Lead) - not critical 15 U/LE - blood (.delta.-Aminolevulinic acid dehydratase) - not critical 1.50 mg/LE - blood (Protoporphyrin in erythrocytes) - after exposure during 2-3 months (sample protected from light) 70 µg Pb/100 mL - blood (Lead) - if the exposure to the concentration of Lead in the air is greater than 0.075 mg/m³, calculated as a time-weighted average during 40 hours per week, or if the level of Lead in the blood of individual workers is greater than 40 µg Pb/100 mL of blood	13 µmol/mmol Creatinine (urine - 5-Aminolevulinic acid discretionary) 0.035 µmol/mmol Creatinine (urine - Coproporphyrin discretionary) 15 mg/g Creatinine (urine - 5-Aminolevulinic acid discretionary) 0.2 mg/g Creatinine (urine - Coproporphyrin discretionary) 0.4 mg/L (blood - Lead discretionary)

		raacetic acid) - not provided 6 mg/L - urine (.delta.-Aminolevulinic acid) - not provided			
Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Lead 7439-92-1	20 µg/100 mL (blood - Lead)	1.4 µmol/L (blood - Lead time of day does not matter) 50 µg/dL (blood - Lead) 40 µg/dL (blood - Lead)	400 µg/L - blood (Lead) - 180 µg/L - blood (Lead) - indifferent sampling time 300 µg/L - blood (Lead) - 200 µg/L - blood (Lead) - 100 µg/L - blood (Lead) -	150 µg/L (whole blood - Lead no restriction) 150 µg/L - BAT (no restriction in steady state) blood 30 µg/L - BAR (no restriction in steady state) blood 40 µg/L - BAR (no restriction in steady state) blood	150 µg/L (whole blood - Lead no restriction)

Chemical name	Hungary	Ireland	Italy MDLPS	Italy AIDII
Lead 7439-92-1	-	70 µg/100 mL (blood - Lead not critical) >40 µg/100 mL (blood - Lead not critical) 30 µg/100 mL (blood - Lead not critical)	60 Pb µg/100 mL (blood - end of workweek)	30 µg/100 mL - blood (Lead) - not critical

Chemical name	Latvia	Luxembourg	Romania	Slovakia
Lead 7439-92-1	-	70 µg/100 mL - blood (Lead) - 0.075 mg/m³ - air (Lead) - 40 µg/100 mL - blood (Lead) -	150 µg/L - urine (Lead) - end of shift 70 µg/100 mL - blood (Lead) - end of shift 3 mg/cm - hair (Lead) - end of shift 10 mg/L - urine (.delta.-Aminolevulinic acid) - end of shift 300 µg/L - urine (Coproporphyrin) - end of shift 100 µg/100 mL Erythrocyte - blood (free Erythrocytes protoporphyrin) - end of shift	400 µg/L (blood - Lead not critical) 100 µg/L (blood - Lead not critical) 15 mg/L (urine - .delta.-Aminolevulinic acid not critical) 6 mg/L (urine - .delta.-Aminolevulinic acid not critical) 0.30 mg/L (urine - Coproporphyrins not critical)

Chemical name	Slovenia	Spain	Switzerland	United Kingdom
Lead 7439-92-1	400 µg/L - blood (Lead) - not relevant 300 µg/L - blood (Lead) - not relevant	70 µg/dL (blood - Lead not critical)	400 µg/L (whole blood - Lead no restrictions) 1.93 µmol/L (whole blood - Lead no restrictions) 100 µg/L (whole blood - Lead no restrictions) 0.48 µmol/L (whole blood - Lead no restrictions)	-

Note 1: Details about BEL values can be found in Annex 2 of the Austrian Ordinance on Health Monitoring in the Workplace.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation

Chemical name	Oral	Dermal	Inhalation
Sulfuric acid 7664-93-9	-	-	0.05 mg/m³ [5] [6] 0.1 mg/m³ [5] [7]
Tin 7440-31-5	-	10 mg/kg bw/day [4] [6]	71 mg/m³ [4] [6]

Notes

[4] Systemic health effects.
[5] Local health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Tin 7440-31-5	5 mg/kg bw/day [4] [6]	-	17 mg/m³ [4] [6]

Notes

[4] Systemic health effects.
[6] Long term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Lead 7439-92-1	2.4 µg/L	-	3.3 µg/L	-	-
Sulfuric acid 7664-93-9	0.0025 mg/L	-	0.00025 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Lead 7439-92-1	186 mg/kg sediment dw	168 mg/kg sediment dw	100 µg/L	212 mg/kg soil dw	10.9 mg/kg food
Sulfuric acid 7664-93-9	0.002 mg/kg sediment dw	0.002 mg/kg sediment dw	8.8 mg/L	-	-

8.2. Exposure controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Personal protective equipment

Eye/face protection

None required for end-use. If contents are released: Tight sealing safety goggles. Face protection shield. Eye protection must conform to standard EN 166.

Hand protection

None required for end-use. If contents are released: Wear suitable gloves. Impervious gloves. Gloves must conform to standard EN 374.

Skin and body protection	None required for end-use. If contents are released: Long sleeved clothing. Wear suitable protective clothing. Chemical resistant apron. (EN ISO 6529).
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Solid containing liquid
Physical state	Solid
Colour	Varies
Odour	Characteristic
Odour threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point		No data available
Initial boiling point and boiling range		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Flash point		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
SADT (°C)		No data available
pH		No data available
pH (as aqueous solution)		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available
Water solubility		No data available
Solubility(ies)		No data available
Partition coefficient		No data available
Vapour pressure		No data available
Relative density		No data available
Bulk density		No data available
Liquid Density		No data available
Relative vapour density		No data available
Particle characteristics		
Particle Size		No data available
Particle Size Distribution		No data available

9.2. Other information

Molecular weight	No information available
VOC content	0.0%
Softening point	No information available

9.2.1. Information with regards to physical hazard classes

No information available

Explosives

Explosive properties	No information available
Oxidising properties	No information available

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity None under normal use conditions.

10.2. Chemical stability

Stability For the lead component: When oxygen is present, it will be eroded by pure water and the weak organic acid. At normal temperature, it will be eroded by fluorine or chlorine.

For the sulfuric component: At first, vapor is generated by heating and generate sulfuric acid vapors if continue to heat. Rapid contact with water might generate a large amount of heat, and sometimes the acid is scattered. Dilute sulfuric acid, which is generated by diluting with water, generates hydrogen gas by the corrosion of various metals and may cause flash explosion by mixing with air.

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Lead component:
React violently with combustible materials and organic matter (sulfuric acid, hydrogen peroxide, phosphoric acid), and it may cause risk of fire.

Sulfuric acid component:
Reacts violently with bases and is corrosive to most common metals forming a flammable/explosive gas (hydrogen).

10.4. Conditions to avoid

Conditions to avoid Excessive heat. Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Incompatible materials Acids. Bases. Oxidising agent.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Fatal if inhaled. (based on components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including

blindness. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause blindness.

Acute toxicity Fatal if inhaled.

Numerical measures of toxicity
The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (oral)	>2,000 mg/kg
ATEmix (inhalation-dust/mist)	0.359 mg/l

Unknown acute toxicity
81.8 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric acid	= 2140 mg/kg (Rat)	-	= 0.375 mg/L (Rat) 4 h
Tin	= 700 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 4.75 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child. May cause harm to breast-fed children.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	European Union
Lead	Repr. 1A Lact.

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties Based on available data, the classification criteria are not met

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Unknown aquatic toxicity Contains 6 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Lead 7439-92-1	-	LC50: =0.44mg/L (96h, Cyprinus carpio) LC50: =1.17mg/L (96h, Oncorhynchus mykiss) LC50: =1.32mg/L (96h, Oncorhynchus mykiss)	-	EC50: =600µg/L (48h, water flea)
Sulfuric acid 7664-93-9	-	LC50: >500mg/L (96h, Brachydanio rerio)	-	-

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment Based on available data, the classification criteria are not met.

Chemical name	PBT and vPvB assessment
Lead	PBT assessment does not apply

7439-92-1	
Sulfuric acid 7664-93-9	The substance is not PBT / vPvB
Glass fiber 65997-17-3	PBT assessment does not apply
Tin 7440-31-5	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties Based on available data, the classification criteria are not met.

12.7. Other adverse effects

Other adverse effects No information available.

PMT or vPvM properties Based on available data, the classification criteria are not met.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IATA

14.1 UN number or ID number UN2800
14.2 UN proper shipping name Batteries, wet, non-spillable
14.3 Transport hazard class(es) 8
14.4 Packing group Not regulated
Description UN2800, Batteries, wet, non-spillable, 8
14.5 Environmental hazards No
14.6 Special precautions for user
Special Provisions A48, A67, A164, A183
ERG Code 8L
Note: None

IMDG

14.1 UN number or ID number UN2800
14.2 UN proper shipping name Batteries, wet, non-spillable
14.3 Transport hazard class(es) 8
14.4 Packing group Not regulated
Description UN2800, Batteries, wet, non-spillable, 8
14.5 Environmental hazards No
14.6 Special precautions for user
Special Provisions 238 F-A S-B
14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number	UN2800
14.2 UN proper shipping name	BATTERIES, WET, NON-SPILLABLE
14.3 Transport hazard class(es)	8
14.4 Packing group	Not applicable
Description	UN2800, BATTERIES, WET, NON-SPILLABLE, 8
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	238, 295, 598
Classification code	C11

ADR

In accordance with ADR Special Provision 238
Subject batteries are classified as Non-spillable and have been tested and meet the non-spillable criteria listed in SP 238 (a) and (b)

14.1 UN number or ID number	UN2800
14.2 UN proper shipping name	BATTERIES, WET, NON-SPILLABLE
14.3 Transport hazard class(es)	8
14.4 Packing group	Not regulated
Description	UN2800, BATTERIES, WET, NON-SPILLABLE, 8
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	238, 295, 598
Classification code	C11
Tunnel restriction code	(E)

ADN

14.1 UN number or ID number	UN2800
14.2 UN proper shipping name	BATTERIES, WET, NON-SPILLABLE
14.3 Transport hazard class(es)	8
14.4 Packing group	Not applicable
Description	UN2800, BATTERIES, WET, NON-SPILLABLE, 8
14.5 Environmental hazard	No
14.6 Special precautions for user	
Special Provisions	238, 295, 598
Classification code	C11
Equipment Requirements	PP, EP

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Lead - 7439-92-1	RG 1
Glass fiber - 65997-17-3	RG 42

Germany

Water hazard class (WGK)	slightly hazardous to water (WGK 1)
Chemical Prohibition Ordinance (ChemVerbotsV)	This product is subject to requirements and restrictions regarding handling and delivery

Chemical name	Chemical Prohibition Ordinance (ChemVerbotsV)
Lead 7439-92-1	1.2
Sulfuric acid 7664-93-9	1.2

TA Luft (German Air Pollution Control Regulation)

Chemical name	Number	Class
Lead	5.2.2	Class II
Tin	5.2.2	Class III

TRGS 905 Not applicable

Netherlands
Carcinogenic, mutagenic and reproductive toxic effects

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Lead - 7439-92-1	-	-	Development Category 1A;powder, particle diameter <1 mm Fertility Category 1A;powder, particle diameter <1 mm Can be harmful via breastfeeding powder, particle diameter <1 mm Development Category 1A;solid, particle diameter >=1 mm Fertility Category 1A;solid, particle diameter >=1 mm Can be harmful via breastfeeding solid, particle diameter >=1 mm
Sulfuric acid - 7664-93-9	Present	-	-

Switzerland

Ordinance on the Incentive Tax on Volatile Organic Compounds (OVOC) SR 814.018 Not applicable
Storage of Hazardous Material SC 8
WPO (GSchV) SR 814.201; WPA (GSchG) SR 814.20 Class B
Major Accidents Ordinance SR 814.012 Not applicable

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Lead - 7439-92-1	72 30 63 75	-
Sulfuric acid - 7664-93-9	75	-
Tin - 7440-31-5	75	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements
This product contains substances which are regulated pursuant to Regulation (EC) No. 649/2012 of the European parliament and of the council concerning the export and import of dangerous chemicals

Chemical name	European Export/Import Restrictions per (EC) 649/2012 - Annex Number
Lead - 7439-92-1	I.1

Dangerous substance category per Seveso Directive (2012/18/EU)
H2 - ACUTE TOXIC
E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Ozone-depleting substances (ODS) Regulation (EU) 2024/590
Not applicable.

EU - Water Framework Directive (2000/60/EC)

Chemical name	EU - Water Framework Directive (2000/60/EC)
Lead - 7439-92-1	Priority substance

EU - Environmental Quality Standards (2008/105/EC)

Chemical name	EU - Environmental Quality Standards (2008/105/EC)
Lead - 7439-92-1	Priority substance

International Inventories
Contact supplier for inventory compliance status

15.2. Chemical safety assessment

Chemical Safety Report Chemical safety assessments for substances in this mixture were not carried out

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of any hazard and/or precautionary statements referred to under Sections 2-15
H314 - Causes severe skin burns and eye damage
H360FD - May damage fertility. May damage the unborn child
H362 - May cause harm to breast-fed children
H410 - Very toxic to aquatic life with long lasting effects
P260 - Do not breathe dusts or mists
P271 - Use only outdoors or in a well-ventilated area
P284 - In case of inadequate ventilation wear respiratory protection
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves, protective clothing, eye protection and face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P321 - Specific treatment (see supplemental first aid instructions on this label)

P363 - Wash contaminated clothing before reuse
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P263 - Avoid contact during pregnancy and while nursing
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P391 - Collect spillage

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
AIDII	Italian Association of Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CLP	Classification, Labelling and Packaging Regulation; Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DFG	German Research Foundation
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency
EC Number	European Community number
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	Environmental Protection Agency
EWC	European Waste Codes
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organisation
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organisation for Standardisation
KECI	Korean Existing Chemicals Inventory
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MAL	Measuring Technical Hygienic Air Needs
MARPOL	International Convention for the Prevention of Pollution from Ships
MDLPS	Ministry of Labour and Social Policy
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits

PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
REACH	Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
SVHC	Substance of very high concern
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
Sen+	Sensitiser
Sk*	Skin designation
**	Hazard Designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Chronic aquatic toxicity	Calculation method
Acute aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency

Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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End of Safety Data Sheet